

ABSTRACT OF THE DISCLOSURE

A fiber optic sensor system is provided to determine the concentration of an analyte in fluids. The sensor is made of an optical fiber tip or a tubular tip and has a working end coated with reagents and enzymes. When the working end of the test tip interacts with the analyte, a color reaction takes place. The color intensity is correlated with the amount of analyte presented in the sample and will be transmitted through the optical fiber to a reading meter for data processing. The system can be used to monitor the concentration of a biological analyte such as glucose in blood. Because of the high sensitivity of the fiber optical detection system described here, a minimal sample volume is required and a virtually painless testing process can be achieved.